

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-6 (cancelled)

Claim 7 (currently amended): A method for auto-focus control in a digital camera, the digital camera comprising a movable lens, the method comprising:

- determining a presence of artificial illumination in the scene;
- determining a frequency of illumination intensity variations in the scene;
- taking a first exposure with the [[a]] lens in a first position, the first exposure occurring at a preselected phase of ~~synchronized with~~ the frequency of illumination intensity variations in the scene;
- moving the lens to a second position;
- taking a second exposure at the synchronized preselected phase of the frequency of illumination intensity variations; and
- determining which lens position has a better focus measure.

Claim 8 (currently amended): The method of claim 7, wherein ~~where~~ the presence and frequency of the illumination intensity variations ~~artificial illumination~~ is determined by user input.

Claim 9 (currently amended): The method of claim 7, wherein ~~where~~ the presence and frequency of the illumination intensity variations ~~artificial illumination~~ is determined by measuring the light from the scene for periodic illumination intensity variations.

Claim 10 (currently amended): The method of claim 9, wherein ~~where~~ the periodic illumination intensity changes are variations in brightness.

Claim 11 (currently amended): The method of claim 9, wherein ~~where~~ the light from the scene is focused onto a photo sensor and the periodic variations changes are variations in contrast.

Claim 12 (currently amended): The method of claim 7, wherein ~~where~~ the frequency of the illumination intensity variations ~~artificial illumination~~ is determined by the geographical location of the scene.

Claim 13 (currently amended): A method for auto-focus control in a digital camera, the digital camera comprising a lens, the method comprising:

predicting at least one frequency, wherein the at least one frequency represents ~~[[for]]~~ a variation in the illumination ~~in the of~~ a scene;

measuring light from the scene at a periodic rate, ~~where~~ wherein the periodic rate is different than any of the predicted frequencies or any multiple of the predicted frequencies, using an exposure length that is different than any of the periods of the predicted frequencies during the measuring;

~~detecting the presence of~~ determining that an artificial illuminant is illuminating the scene when the measured light from the scene ~~contains periodic changes~~ periodically;

determining the ~~phase and frequency of the periodic changes with FFT~~ using fast Fourier transform analysis of the ~~sampled measured~~ light;

synchronizing an exposure rate with the frequency of the intensity variations in the scene;

taking a first synchronized exposure with a lens in a first position, the first synchronized exposure occurring at a preselected phase in the frequency of the periodic changes;

moving the lens to a second position;

taking a second exposure at the preselected phase in the frequency of the periodic changes synchronized frequency; and  
determining which lens position has a better focus measure.

Claim 14 (original): A method for auto-focus control, comprising:

- predicting a frequency for a variation in the illumination in the scene;
- measuring light from the scene at a periodic rate using a first exposure length that is equal to the period of the predicted frequency;
- re-measuring light from the scene at a periodic rate using a second exposure length that is equal to the period of a second predicted frequency;
- determining the presence and frequency of the variation in the illumination in the scene when the variability of the measurements using the first exposure length is different than the variability of the measurements using the second exposure length;
- synchronizing an exposure rate with the frequency of the intensity variations in the scene;
- taking a first synchronized exposure with the lens in a first position;
- moving the lens to a second position;
- taking a second exposure at the synchronized frequency;
- determining which lens position has a better focus measure.

Claim 15 (cancelled)

Claim 16 (currently amended): A digital camera comprising:

- a photo sensor array, the photo sensor array configured to measure light from a scene at a predetermined exposure length;
- a lens configured to focus the light from the scene onto the photo sensor array;
- a processor, the processor configured to determine the frequency of intensity variations in the illumination of the scene by examining the measured light from the scene for periodic contrast variations, the processor also configured to synchronize at

least two exposures ~~exposure~~, used in auto-focus control, to the intensity variations in the scene.

Claim 17 (currently amended): The digital camera of claim ~~[[18]]~~ 16, wherein ~~where~~ the periodic frequency is contrast variations are close to a common AC frequency.

Claims 18-23 (cancelled)